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# The Mothers' Book

• Published by the  
South Dakota  
State Board of Health  
Waubay, South Dakota



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# The Mothers' Book

Intelligent Mothers  
Healthier Babies  
Greater South Dakota

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COURTESY NEW YORK TRIBUNE

We Endeavor  
To Reduce the Toll of Preventable  
Infant Deaths  
To Promote and Maintain a Sturdy  
Citizenship

by

Calling Your Attention to Needs  
Met and Needs Not Met  
for the Welfare of  
Your Child

Published by the State Board of Health

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In the preparation of this book frequent use has been made of "The Baby and You," published by the Massachusetts State Board of Health, "Hygiene and the Child," "Infancy and Childhood," by Holt, Publications of the Province of Quebec Board of Health, The United States Public Health Service and the American Medical Association.



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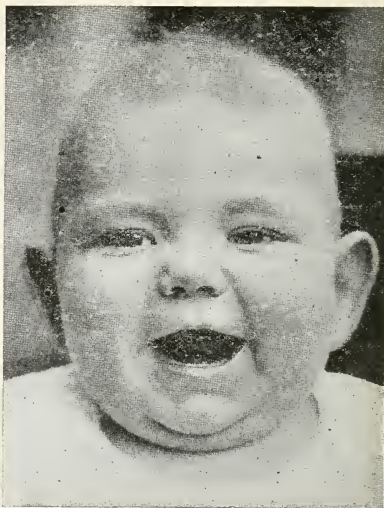
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A Man is Known by His Friends.

—Hygiene and the Child



### TO THE MOTHER

You must remember that your baby is dependent upon you for its physical and mental development. It may grow up and live a useful life, or it may pass away in childhood. This life is intrusted to your care; if you guard it with devotion and intelligence you have accomplished the greatest duty allotted to womankind.

## THE MOTHERS' BOOK

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### FOREWORD

The State Board of Health has found that the death rate is excessive among our infants, and it is with the idea of securing a more intelligent cooperation from our mothers that we are placing this little booklet into every home in South Dakota where there are babies.

The physical development wholly, and the mental development largely, are dependent upon inheritance, surroundings and food. Inheritance is beyond our power to alter, and surroundings and food are under absolute control of the child's parents.

Intestinal diseases are the cause of one-third to one-half of all deaths among our infants up to the age of two years, and babies who have been sufferers from these diseases and have survived, often exist in a state of impaired vitality which renders them an easy prey to other diseases. Therefore, it is against intestinal diseases that sanitarians everywhere direct their efforts to lower the death rate among infants.

# The Mother's Book

## RULES FOR CALCULATING GESTATION PERIOD

The general rule is: Count forward nine months and seven days from date of beginning of last menstruation. However, the varying number of days in the month modifies this slightly. Below is a table of the months in detail.

Beginning of last Menstruation	Take the same day of	And Add
Jan. ....	Oct.....	7 days
Feb. ....	Nov.....	7 "
March .....	Dec.....	5 "
April .....	Jan.....	5 "
May .....	Feb.....	4 "
June .....	March.....	7 "
July .....	April.....	6 "
Aug. ....	May.....	7 "
Sept. ....	June.....	7 "
Oct. ....	July.....	7 "
Nov. ....	Aug.....	7 "
Dec. ....	Sept.....	6 "

### Example:

Beginning of last menstruation, April 14th; take Jan. 14th and add 5 days, making Jan. 19th as probable date of confinement.

Menstruation May 31st; as February has only 28 days, the day which would correspond to the 31st would be March 3d, to which you add 4 days, making March 7th probable day of confinement. However, it is well known that women do not always fulfill the exact period. By any known method of calculation we can only arrive at the probable date of confinement.

# THE MOTHERS' BOOK

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## BEFORE BABY COMES

1. Cessation of monthly periods.
2. Changes in the breasts.
3. Morning sickness.
4. Movements of the child.

Signs of  
Pregnancy

Walks in the open air should be taken during the entire course of pregnancy. Exercise in the fresh air and housework, with the windows open, are better than medicine, but overfatigue, violent exercise and great mental excitement are to be avoided.

Exercise and  
Air

Loose, comfortable clothing is essential to the comfort of the mother and the welfare of the child. Skirts and dresses should hang from the shoulders, and no tight bands should confine waist or chest.

Clothing and  
Bathing

Daily bathing is necessary for the best health of the mother.

Teeth often decay while the baby is coming and need special care to keep them clean. If a woman is pregnant she should go to a dentist by the end of the fourth month and have her teeth put in good condition.

Breasts and nipples should be kept clean. For toughening they should be scrubbed at bedtime with warm water and soap, using a soft brush, and afterwards anointed with vaseline.

Care of  
Breasts

It is necessary to drink plenty of water so that the kidneys will act freely.

The best diet includes a large proportion of liquids, a small proportion of meat and a generous proportion of fresh fruit and vegetables.

Diet

Avoid all stimulants, such as whiskey, beer and wine. Reduce your amount of tea and coffee, drink milk and other liquids, such as cocoa, broths and buttermilk.

Do not overeat; it is better to eat lightly sev-

### Bowels

eral times a day; this may do much to relieve the nausea.

It is important that the bowels should move freely at least once a day. A proper laxative diet will include fresh fruits, cooked fruits, graham and coarse bread. Ordinary bran eaten raw, with wholesome cream, is often extremely beneficial, also bread made as follows:

- 1 cup molasses.
- 1 teaspoonful soda.
- 1 small teaspoonful salt.
- 1 pint sour milk.
- 1 quart bran.
- 1 pint flour.

Stir well and bake for one hour in a very slow oven.

### LIST OF NECESSARY THINGS FOR BABY

- 2 light weight blankets.
- 3 cotton and wool, or silk and wool undershirts.
- 4 cotton slips.
- 3 flannel or flannelette petticoats.
- 2 dozen diapers, made of birdseye.
- 1 box talcum powder.
- 1 box boric acid.
- 1 piece non-irritating toilet soap.
- 2 dozen safety pins, large and small.
- Quarter pound sterile gauze.
- Quarter pound sterile absorbent cotton.
- 1 set scales.

### FOR THE MOTHER

- 3 night gowns.
- 1½ yds. square of oil cloth or rubber sheeting.
- 2 pounds absorbent cotton.
- 2 pounds sterilized gauze or clean linen.



## THE MOTHERS' BOOK

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As soon as you know a baby is coming place yourself under the care of your physician.

The expectant mother requires an extra amount of sleep, and a daytime rest for an hour or two is desirable. She should keep the windows open day and night.

### WHEN THE BABY COMES

There should be a warm, soft blanket to receive the baby.

The eyes should be carefully cleansed with a saturated solution of boric acid, using a piece of sterile absorbent cotton for each eye, and into each eye the doctor or nurse should put two or three drops of a 2 per cent solution of nitrate of silver to prevent sore eyes, and, possibly, blindness.

After the baby's eyes have been cleaned and treated as directed, the body should be oiled with warm, sterilized sweet oil or vaseline. At birth there is on the baby's skin, particularly under the arms, between the fingers and toes, and in the creases of the skin, an accumulation of a white cheeselike substance that can only be removed with oil.

If the baby is robust, after the oil bath a warm water bath may be given. Keep the child warm and covered as much as possible during the bath, which must be gently but quickly given.

The baby should be placed in a quiet, darkened room properly protected against cold, but not surrounded with too many hot-water bags or bottles.

The baby should have a bed by itself. A large clothes basket makes a satisfactory bed for a little baby. It can be moved easily and kept clean. When the baby sits up, it is a good place in which to play. The basket should be furnished with a hair pillow for a mattress, protected by a

**New Born  
Baby**

**Care of Eyes..**

**Baby's Bed**

piece of rubber sheeting or oilcloth, and a piece of padding over that.

Little blankets made of cheesecloth stuffed with cotton batting and sewed through, like puffs, are warm, easily washed and kept clean.

See that the baby's birth is promptly and properly registered.

The baby may need his birth certificate to prove—

His citizenship.

His right to go to school.

His right to inherit property.

His right to working papers.

**Registration**  
**Birth**



## BATHING

A full tub bath may be given as soon as the scar where the navel cord was attached has fully healed.

**Directions  
for the  
Bath**

Before handling the baby the mother should first wash her own hands carefully, to remove all dirt.



During the first few months the bath should be given at 98 degrees F. The room should be warm, the bath short, and the body dried quick-

**Temperature  
of Bath**

ly without too vigorous rubbing.

The addition of one large handful of salt to one gallon of water is an advantage where the skin is delicate.

By the sixth month the temperature of the bath for healthy infants may be lowered to 95 degrees F., and by the end of the first year to 90 degrees F.

Older children who are healthy should be sponged or douched for a moment at the close of a tepid bath with water at 65 degrees to 70 degrees F.

**Older  
Children**

During childhood the warm bath is preferably given at night, and in the morning a cold sponge bath is desired; this should be given in a warm room while the child stands in a tub partly filled with warm water. The cold sponge should last but one-half minute, and should be followed by a brisk rubbing of the whole body.

In instances where children do not thrive and do not appear in perfect health, where there is no reaction after the bath, a physician should be consulted, as it is probably due to some impairment of the child's vitality.

### The Head

The baby's head should be washed carefully every day; if a scaly or yellowish skin appears on it, the head should be greased at night with vaseline or sweet oil. In the morning, after washing it, the head should be very gently brushed with a baby's soft hair brush.

## CARE OF EYES, MOUTH, NOSE AND EARS

### Eyes

Whether the baby is awake or asleep his eyes should be shielded from strong light, either sunlight or artificial, and from dust and wind. Clean the corners of eyes and eyelids with a soft piece of cotton wet in warm boiled water, using a separate piece for each eye.

### Mouth

Never put a soiled finger inside the baby's mouth. If the mouth must be washed use a twisted piece of sterile absorbent cotton, wet in warm boiled water.

### Nose and Ears

The baby's nose should be cleaned every day with a piece of absorbent cotton, wet in warm boiled water and the external ear cleaned in the same way.

All cotton used for cleansing nose, mouth, ears and eyes should be burned.

## CLOTHING

### Winter

All baby clothing should be loose and roomy.

The baby is sensitive to both heat and cold. When he goes out in cold weather he should wear a warm woolen cap and a coat long enough to turn up at the bottom, making a bag. In cold weather

the baby's legs should be entirely covered, and the stockings pinned to the diaper.

During the summer months the outer clothing should be light and the underclothing should be of the thinnest flannel. Changes in the temperature of the morning and evening should be met by extra wraps.

**Summer**

The night clothing of infants should be loose and of the lightest flannel. It is a common mistake to overload children, especially infants, with covering at night; this is the usual cause of the restless sleep which is seen in delicate children.

**Night  
Clothing**

Strips of flannel five inches wide and sixteen inches long are used to hold the navel dressing in place, but they must never be drawn tightly around the body. As soon as the navel heals the knitted loose bands should be substituted for the flannel bands.

**Bands**

The ordinary diaper is hot and clumsy, and a wad of thick material between the legs is bad for the baby. A good substitute for the diaper in common use for the newborn baby is birdseye, or any other soft material.

**Diapers**

Wet diapers make a baby fretty, and during the mother's waking hours the diaper should be changed as often as it is wet or soiled. In the night it should be changed when the baby is taken up to be fed.

Soiled diapers should be washed as soon as possible. All soap used in washing them should be thoroughly rinsed out.

Do not let the flies get at the soiled diapers, as they carry filth to the baby and make him sick.

No shoes should be worn until the baby begins to creep. The first shoes for the baby should have soft soles. As soon as the baby begins to stand the shoes should have stiff soles.

**Shoes**

The shoes should be the shape of the baby's foot.

### SUMMER CARE OF BABIES

Food	In very hot weather the baby needs less food but more cooled boiled water to drink.
Clothing	The clothing in hot weather should be very light.
Bathing	Bathe the baby morning and evening and, on hot days, also in the middle of the day. Keep the skin clean, dry and powdered.
Fresh Air	Baby needs fresh air as much as fresh food. Keep him out of doors as much as possible, but avoid the sun on hot days. In very hot weather take him out early in the morning and in the late afternoon and early evening. Take the baby to the lake and to the country whenever you can.

### SLEEP

A young baby sleeps eighteen to twenty hours out of twenty-four.

At six months of age, about sixteen hours.

At one year of age, fourteen hours.

At two years of age, twelve hours.

Day time naps should be continued as long as possible.

The sleeping room should be darkened and well ventilated, the windows open at the top and bottom. If the baby cries when he should be asleep he is probably sick, overfed or hungry.

### GOOD HABITS

Do not get him into the habit of expecting to be carried about if he cries.

Train him to go to sleep by himself in the dark.

## THE MOTHERS' BOOK

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### VACCINATION AGAINST SMALLPOX

Every child should be vaccinated before the age of four months, unless the physician deems it wise to wait. Should there be smallpox in the locality, the child should be vaccinated at birth.

### PURULENT INFECTION OF THE EYES

Sixty per cent of the born blind owe their infirmity to an infection of the eyes during the confinement, and which unfortunately was left without immediate treatment. The development of the disease may be prevented if the child is timely attended to. Thus, if a few hours after birth, or at any time during the first two weeks, the eyes become inflamed, and especially if there be secretions, the physician should be summoned at once.

### CAUSES OF SUMMER DIARRHEA

Uncleanliness, as it pertains to the care of the baby, his body, his clothes, his bed and his home, is an important cause of sickness.

During the hot weather the rules previously given for bathing, clothing and airing should be carefully observed. There is more danger from overdressing than from underdressing during the hot weather.

Especial attention should be directed toward the removal of all soiled clothes from the room and the thorough boiling of the diapers.

The baby must be protected against flies and insects by properly screening the bed, or what is better, preventing the entrance of insects by screening the house. Flies and insects communicate disease by carrying filth germs. Domestic

animals, such as dogs and cats, should be excluded from the baby's room. It needs only to be repeated that improper ventilation of his room and excessive heat are dangerous to the baby. This applies to the heat out of doors as well as excessive heat in the home.

### PENDING THE DOCTOR'S ARRIVAL, WHAT SHOULD BE DONE FOR THE CHILD SUFFERING FROM DIARRHEA

Should the child have diarrhea, summon the physician immediately; he is often called too late to save the child's life.

It is of utmost importance not to lose any time. From the very first green stool, stop all milk feeding, mother's milk as well as cow's milk, and without delay administer a teaspoonful of castor oil; then in order to keep the elimination of the fermented matters from the bowels which act as poisons, give boiled water in quantity equal to that of the milk which has been withheld. Should the physician's visit be delayed, keep giving boiled water exclusively for twenty-four hours, if the stools have not improved; then give barley water or rice water at feeding times, extending somewhat the time between meals, for the digestive powers have become impaired.

Barley or rice water should be continued until the stools have become normal; in some cases forty-eight hours or even more are required before resuming the milk, but it is always necessary to follow the physician's directions. Once the stools have become normal, the milk should be resorted to by degrees only; if the child is breast fed, alternate sucklings with barley water bottles; if the child is bottle fed, add for the first day a tablespoonful of milk in the bottles of barley water,



## THE MOTHERS' BOOK

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and, if this change agrees with the child, that is, if the stools remain good, the proportion of milk may be gradually increased during the following days, until the child is given the same quantity as before its illness.

### ADVICE TO NURSING MOTHERS

Don't worry. Cultivate calm.

Get full eight hours sleep.

Sleep in a well ventilated room.

Take a walk out of doors every day except when the weather is inclement.

Take a daily bath. A sponge bath is good.

Eat only plain foods. Pass salads, pickles, spices. Eat moderately of meats. Eat freely of fruits and vegetables.

Don't become constipated. Relieve constipation by attending to nature's calls, by cultivating a regular habit, by eating very freely of fruits and drinking plenty of pure water.

Don't take patent medicines, or indeed any medicines, except as the doctor directs.

Take a nap every afternoon, or at least lie down and rest for half an hour.

Don't drink tea or coffee. The tannin they contain causes constipation, and the caffeine they contain is a nerve whipper, and is bad for mother and child.

Don't allow yourself to become angry. Fits of temper injure the breast milk.

Nurse your baby only five or six times daily, and cut down the milk supply if the baby vomits it.

See that your baby is registered.

## THE MOTHERS' BOOK

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### A MOTHER OWES HER MILK TO HER CHILD

At birth the infant is still an incomplete being, and the mother, alone, can provide it with the exact food it requires to develop itself normally; in other words, each mother secretes milk which is special to herself and which generally adapts itself to the needs of her infant during the whole period of lactation. Cow's milk differs widely from woman's milk. The cow secretes milk for her calf, whose digestive organs are totally different from those of the infant. The prepared foods on the market differ still more from the composition of woman's milk. A great advantage of mother's milk is that it passes directly and pure into the mouth of the infant, while cow's milk is exposed to much filth, and spoils between the time it is milked and the feeding of the child.

In a word, to be convinced of the advantages of mother's milk, it is sufficient to recall that it has been proved that out of 100 deaths in infants before reaching the age of twelve months, 90 per cent are bottle fed; while 100 babies suckled by their mothers, the death rate is only 9 per cent, which means that the bottle fed baby is nine times more exposed to death than the child suckled by its mother.

It is only in exceptional cases that a mother is unable to suckle her child; before taking such a step she should consult her physician, for he alone has the necessary knowledge to advise her.

### FEEDING

#### Breast Feeding

The breast contains the infant's food already prepared, and consequently the only care of the mother is to pay attention not to take anything which might affect her milk. She should not take

drugs nor any alcoholic beverages whatever without having previously consulted her physician, because these substances pass into her milk and are often a poison to her child. The most suitable food for a nursing mother is that which is simple and easily digested. Meat, milk, eggs, and gruels are recommended. Tea and coffee should be used sparingly. All foods which contain acids, especially vinegar, should be avoided. A cup of gruel or a glass of milk between meals is often the only thing that a mother is advised to add to her ordinary diet, if she is in good health. She should avoid emotions. She should live in pure air, take a little outdoor exercise every day, and make up during the day any loss of sleep at night.

The breast and nipples should be washed with boiled water immediately before and after each nursing, to remove all traces of milk that the child may have left on their surface, as these deposits alter rapidly.

The child should be suckled during ten to fifteen minutes, and at regular intervals, to allow the stomach to empty itself between feedings. Between feedings the child should be quieted by giving it tepid water that has been boiled. The feedings should be timed thus:

The first day may be given three or four times during the day a little sweetened tepid water, the water having been boiled.

The remainder of the week the infant shall be suckled five or six times during the twenty-four hours.

After the first week and until the ninth month, the child should not be suckled more than seven times in twenty-four hours.

From the ninth month to the twelfth month, not more than six feedings shall be given in twenty-four hours.

During the day time there shall be three hour intervals between feedings. During the night one feeding may be given, but only till the ninth month. From the ninth month, boiled water only is given during the night.

If by following these directions, the child's stools are yellow and two or three times in number during the twenty-four hours, and if it gains in weight six to seven ounces a week during the first six months, and half of this weight during the following six months, it means that the child is doing well.

If, unfortunately, it is absolutely impossible for a mother to nurse her child, or to secure for it a wet nurse, there is reason to expect that she will endeavor at least, to give her child a food which, by its composition and purity, will most resemble the mother's milk of which it is deprived. Her best guide is her physician, he alone having ascertained what the child can digest—this being the most frequent consideration—can direct how this artificial food may be modified so as to give the infant, as quickly as possible, the nutritive elements which it would have found prepared in its mother's milk or that of a wet nurse.

It is universally admitted that cow's milk is the best substitute for mother's milk, but it must be modified to render it as nearly as possible similar to mother's milk. With this end in view various formulas have been recommended. For children of normal weight the following mixtures should prove generally successful. The prescriptions of the family doctor, should, however, always be followed, as he may have reason to modify the mixtures should the child not digest them well:

## THE MOTHERS' BOOK

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### MIXTURE NO. 1.—For infants Under One Month

Milk treated by heat (see page 26.) Six ounces (one small cupful.)

Sugar of milk (\*) One and one half rounded tablespoonfuls.

Water that has been boiled. 15 ounces (Two and one-half cupfuls.)

For an infant under two weeks, give two tablespoonfuls of the above mixture at each feeding.

For an infant from two to four weeks old, give four tablespoonfuls.

Food should never be given oftener than every two hours during the day time and more than twice during the night.

### MIXTURE NO. 2.—For Infants from One to Four Months

Milk treated by heat (see page 26) 12 ounces (2 small cupfuls.)

Sugar of Milk (\*) 2 heaping tablespoonfuls.

Barley water 24 ounces (4 small cupfuls.)

For an infant one month old, give two ounces every three hours during the day and twice during the night.

For an infant three months old, give four ounces every three hours during the day and twice during the night.

### MIXTURE NO. 3.—For Infants from Four to Six Months

Milk treated by heat (see page 26.) 18 ounces (3 small cupfuls).

Sugar of Milk (\*) 2 heaping tablespoonfuls.

Barley water. 24 ounces (4 small cupfuls)

For an infant of four months, give four and one-half to five ounces every three hours during the day and once during the night.

For an infant of five to six months, give six

to seven ounces every three hours during the day and once during the night.

(\*) If sugar of milk is not available, use ordinary granulated sugar, but in amount a little more than half of that directed for the sugar of milk.

### MIXTURE NO.4—For Infants from Six to Nine Months.

Milk treated by heat (see page 26) 24 ounces (4 small cupfuls.)

Sugar of Milk (\*) One and one-half table-spoonfuls.

Barley water 18 ounces (3 small cupfuls.)

### MIXTURE NO.5.—For Infants from Nine to Twelve Months.

Milk treated by heat (see page 26.) 33 ounces (Five and one-half small cupfuls.)

Sugar of milk (\*) 1 heaping tablespoonful.

Barley water. 18 ounces (2 small cupfuls.)

Give eight to nine ounces every three hours during the day, but none during the night.

Should it be found, for any reason whatever, that the mother has not sufficient quantity of milk or that it is not rich enough, breast feeding should not be completely discontinued, but the deficiency should be made up by giving, immediately after each breast feeding, cow's milk prepared according to the age of the child, as described in the foregoing formulas. This mixed feeding helps the infant to digest the cows milk.

This is usually affected from the ninth to the twelfth month, but, as much as possible, avoid doing it during the hot weather. Proceed gradually, replacing for several days one breast feeding by a bottle feeding, then two, three, and so on, until the weaning is completed.

Mixed  
Feeding

Weaning

## THE MOTHERS' BOOK

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The child's food may be varied, but it must not be allowed to sit at table and partake of everything, as is too often the case.

From the twelfth to the twenty-fourth month, the food of the child should consist chiefly of milk or of foods in which milk enters. Its other foods will be made up of gruel, stale bread, dry biscuits, meat broths, soft boiled eggs, custards, rice and milk puddings. It may also be given for dessert, but in small quantity, the juice of fruits or cooked apples.

Meat must not be given to the child till it has reached the age of two years. Do not give the child wine, alcohol, tea or coffee.

Food for the  
Child During  
Its Second  
Year

### REMARKS REGARDING THE PREPARATION AND ADMINISTRATION OF ARTIFICIAL FOOD

It is much better to prepare the whole quantity of food required by the infant for twenty-four hours than to prepare each feeding by itself.

Sugar of milk entirely dissolves in hot water only, therefore it should be added to the water while still boiling.

It is to be remembered that rich milk often disagrees with infants during hot weather. If vomiting sets in, this creamy milk should be stopped, and milk from which cream has been removed should be used for a time.

In artificially feeding infants the following notes are to be remembered. The strength of the food should be increased gradually; the infant resents rapid changes. Feed regularly; after a time the infant becomes accustomed to this regularity, and will not cry for food between feedings. ~~For~~ just the right quantity required for the feeding into the bottle. If any is left over throw it out;

do not give it to the infant a second time. Keep the food as cold as possible until ready to use it, then warm it so as to give it to the child luke-warm.

As a rule, it is wise to begin with weak mixtures first and work up slowly to stronger mixtures. Children of the same age vary much as to the strength and quantity of food they require. Small babies require less than large ones. If the food thus made disagrees with the infant, a physician should be consulted; but in case this is not convenient, the digestibility of the food may sometimes be increased, by either weakening it by the addition of a little water or by adding limewater to it. Many physicians advise that a dessert spoonful of limewater be added under all circumstances to each bottleful of food.

From the ninth to the twelfth month, it is often advisable to begin to accustom the child to digest other foods besides milk. For this purpose suitable food may be used, such as bread and milk preparations, pulp of fruit, etc. This may be given once a day, but it will take the place of one of the milk feedings, and should the child seem to be thirsty a few minutes after eating it, boiled water should be given it, not milk.

Sometimes it is advantageous to give a bottle fed infant a teaspoonful of clear orange juice twice a day, one hour before meals, the juice from a sound orange only.

### TREATMENT OF MILK BY HEAT

Heat will not convert rotten milk into good milk. It can only destroy a large number of the microbes contained in the milk, but the secretions of these same microbes are not destroyed and remain in the milk. Therefore one must endeavor to



## THE MOTHERS' BOOK

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destroy these microbes before they had time to contaminate the milk by their secretions.

If the milk be of suspicious quality, it should be heated, in summer time especially. To do so, should not one wish to purchase the special apparatus sold for this purpose, the bottles of milk are placed in a vessel containing cold water, the vessel is placed over the fire and is removed before the water starts to boil. The bottles are left standing in the vessel ten minutes after it has been removed from the fire. When this time is expired, the bottles are taken out and rapidly cooled under the tap, and then placed in the refrigerator till time for feeding.

When the quality of milk is above suspicion, the family physician should be consulted to decide whether it is sufficient to cool the milk, without previous heating.

### HOW TO PREPARE BARLEY WATER

Put a tablespoonful of barley grains or barley flour in one pint of water, boil not less than three hours for the grain and twenty minutes only for the flour, adding water now and then to maintain the volume at one pint; then strain.

It is advantageous to dextrinize barley water until the child has reached the age of six months. For this purpose use plain extract of malt. While the barley water is still tepid mix in a teaspoonful of extract of malt and allow to stand during a quarter of an hour, then place over the fire, and remove when it is about to boil. Cool and place in the refrigerator. Barley water must be prepared fresh every day, as it does not keep.

### BOTTLES AND NIPPLES

Bottles with tubes are murderous; it is impossible to clean the tube, and the milk that putrefies in it contaminates, as it passes through, the fresh milk placed in the bottle. Good drug stores do not keep feeding bottles with tubes. In France a law forbids offering them for sale.

Purchase bottles the interior angles of which are rounded off, and with nipples adaptable to the neck of the bottle.

To cleanse the bottle, first rinse with cold water, then wash with hot water and soda, using a brush to better remove clots. After washing allow it to stand in boiled water containing soda or borax until the next feeding time. The nipples should be washed and scoured inside and outside, first with cold water and then with a solution of soda and water. Between feedings leave the nipples in a solution of soda or borax.

### THINGS TO BE REMEMBERED

When baby cries remove the cause.

Perhaps he has overeaten.

Perhaps he is dressed too warmly.

Perhaps he needs a clean diaper.

Perhaps he needs a bath.

Perhaps his bowels have not moved.

Perhaps he has been trotted or bounced.

Perhaps someone has given him a cookie, or some candy, or a pickle.

Perhaps catnip or saffron tea has been forced down him.

Perhaps somebody with decayed teeth and a bad breath has kissed him.

Perhaps his feet are cold.

Perhaps he has not been fed regularly.

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### SLEEP

Babies under two years old should sleep from twelve to fifteen hours in twenty-four.

Babies should sleep alone. Every year many babies are smothered to death, their mothers going to sleep with them in the big bed.

Babies should sleep in a well ventilated room. Bad air makes bad and sick babies.

Babies should be taught to go to sleep at 6 p. m., until three years old. After that gradually raise the limit to 8 p. m.

Babies should not be put to sleep in their mother's arms. It's bad for baby and mother.

Babies should not be rocked to sleep.

Babies should be protected from all excitement.

Babies should never be given soothing syrup.

See that your baby is registered.

### EXERCISE

Babies should play.

Babies should play in the open air when possible.

Babies should not be tickled.

Babies like to romp. Romp with them.

Babies may be gently rolled and kneaded in the bath for exercise.

Babies like to romp and play on the floor. Be sure to spread a sheet or washable rug on the carpet, for carpets hold dirt and germs tracked in by dogs, cats and human feet.

Babies should not play on the floor in cold weather. Let them play on the bed.

Babies should not be fastened for a long time in their high chairs or go carts, for then they will not develop.

Babies' playthings should be frequently washed and baked in the oven of the kitchen stove, to kill any germs which might be on them.

See that your baby is registered.

## THE MOTHERS' BOOK

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### CLOTHING

Babies should be dressed lightly and loosely in clothing fitting the season.

Babies' underwear should be cotton and wool mixed goods.

Babies' feet must be kept dry.

Babies' socks should be knitted of soft woolen or cotton and wool yarn.

Babies' throats must not be tied up except in severe weather. Throat protectors make weak throats.

Babies should have broad, soft and loose shoes.

Babies should never have their faces protected with veils except in severe weather. They need the air which veils keep away.

### FEEDING THE GROWING CHILD DURING THE SECOND YEAR

Much of the illness and suffering among babies commonly attributed to the "second summer" or to teething is actually due to errors in feeding. The baby's delicate digestive mechanism, accustomed to dealing only with milk, can not all at once undertake the task of adjustment to a varied diet of solid foods, but must be strengthened by the gradual addition of new foods until the organs are trained to more complicated operations. The safe rule for feeding the baby is to add but one new food at a time to his dietary; to watch carefully the effect of each one and to withdraw it and return to the simpler diet at the first sign of trouble. These rules are particularly important in summer, when a baby is more readily upset.

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The following list shows the day's meals for a baby in his second year:

7 A. M. Milk.

Zwiebach, toast, or dried bread.

9 A. M. Orange juice.

10 A. M. Cereal.

Cup of milk.

2 P. M. Broth.

Meats.

Vegetables.

Stale bread.

Baked apple.

6 P. M. Cereal

Milk.

Toast or bread.

10 P. M. Milk. (May be omitted).

Milk—At this time the baby should be taking about one quart of milk in 24 hours; part of this may be poured over the cereal.

Cereals—Oatmeal should be cooked three hours, with a little salt in the water. It should be served without sugar, or with a very little only. The lighter cereals should be cooked at least an hour.

Breads—Bread for young children must have been thoroughly baked and should be quite dry when used, that is at least two days old. Tender toast is made by cutting thin slices from such a loaf and allowing them to dry still more, then toasting them to a delicate brown over a quick fire. Toast thus made is crisp all the way through and may be used in many ways. Many children will like to eat it broken into bits in broth or milk. Hot bread and biscuits, griddle cakes, and muffins are not suitable for young children.

Fruit—The child may have a small portion of baked apple or prunes once a day in addition to his morning feeding of orange juice. The apple

should be baked very tender, and all the skin, seeds and hard parts should be removed. Prunes should be very carefully washed, soaked all night, then cooked until very tender with very little sugar. A small portion of the strained pulp may be given instead of apple, and the juice may be used also.

**Meat**—The child may have about a tablespoonful of scraped meat, or a soft boiled or coddled egg once a day. Beef, broiled, boiled, or roasted, the tender part of a lamb-chop, or the delicate meat of a chicken or fish may be used. All meat should be scraped or minced very fine, as no child of this age can be trusted to chew it properly.

**Vegetables**—A small portion of some properly cooked green vegetables like spinach or tender string beans may be given. Such vegetables should be fresh. They should be cooked, then drained and mashed or strained through a colander.

### FEEDING THE CHILD OF THREE

At the beginning of the third year the child's diet may be increased by adding more solid food, especially meats and vegetables. According to the U. S. Department of Agriculture every healthy child of three should have at least one food a day from each of the following five groups.

1. Milk and dishes made chiefly of milk (most important group in children's diet); meat, fish, poultry and eggs.
2. Bread and other cereal foods.
3. Butter and other wholesome fats.
4. Vegetables and fruits.
5. Simple sweets.

The meats should be beef, boiled, broiled or roasted; lamb chops; the white meat of chicken;

or delicate fish. All meat should be free from fat, gristle, or bone and finely minced when given to the child.

Eggs should be very soft boiled, coddled, or poached, or soft scrambled. Fried eggs should never be given to a child, but the grated or mashed yoke of a very hard boiled egg may sometimes be used.

Meat broths made from mutton, beef, or chicken have little nutriment, but if these are thickened with arrowroot or corn starch, and especially if milk is added, they become a valuable food. Well-cooked vegetables, strained and added to warm milk, are not only good foods but serve to teach the child to like vegetables.

Cereals should be thoroughly cooked and served with milk or thin cream and a very small amount of sugar or none.

Bread for a child should be at least two days old. Toast, zwieback, or hard crackers may be given twice a day.

Baked potatoes moistened with a little butter, thin cream, beef juice, or platter gravy may be given.

Asparagus tips, spinach, stewed celery, squash, string beans, carrots, young peas, well cooked and mashed, or put through a puree sieve, are all good for a child. A small portion of one of these vegetables may be a part of the child's dinner each day.

Fruits should be continually used. At this age sweet oranges, baked apples, or stewed prunes are most useful. The juice or mashed pulp of fresh ripe pears or peaches may be given in the third year, but there is much danger in using overripe or green fruit, as well as in giving too much. It is especially necessary to be careful in hot weather when fresh fruit decays rapidly. Bananas should never be given to a young child.

A child under fours years of age should never have dried or salted meats, sausage, pork, game, liver, kidney, goose or duck. Fried and raw vegetables, hot fresh breads, cakes and pastries, salads, candy, sirups, tea, coffee, beer, cider, and soda water are all unsuitable foods for a child.

### CARE OF THE GROWING CHILD'S TEETH

By the end of the second year the baby should have his milk teeth complete and until the sixth or seventh year, when the permanent set will begin to appear, these teeth must serve all the purposes that the final set will serve later. Since this is the time the child is learning to chew his food, a process necessary not only for proper digestion but for the strengthening and developing of his jaws and for the proper growth of the permanent teeth, it is important to keep the first teeth in the best possible working order. The condition of the teeth is a fair index to the general health of the child.

Until the child is old enough to use a tooth-brush himself, the mother should wash his teeth every day; but as early as possible the child should learn to care for his own teeth. If the teeth can not conveniently be cleaned after each meal, the mouth may at least be rinsed. Children should be taught that it is of special importance to wash the teeth and mouth after eating nuts, or any sweet, sticky, or pasty food. The teeth should be carefully cleaned at bedtime since the fermentation of food particles left in the mouth, which leads to the decay of the teeth, proceeds more rapidly at night, when the mouth is still.

The child should be taught to brush the teeth from the gums downward or upward toward the cutting edge. When the teeth are brushed



crosswise, the tendency is to push whatever is on them into the cracks and crevices of the teeth or under the edges of the gums. The inner surfaces of the teeth should also be brushed up and down, and the grinding surfaces should be scrubbed in all directions; after the scrubbing is finished the mouth should be thoroughly rinsed with warm water.

Some hard food like a stalk of celery or part of a ripe juicy apple eaten at the end of a meal scours the surface of the teeth and leaves a fresh clean taste in the mouth.

Children should be taken regularly to a good dentist once or twice a year after the first set of teeth is complete. If cavities appear they should be filled with soft fillings, and each tooth should be saved as long as possible. If the temporary molars are extracted before the sixth year molars come in, the latter will be apt to crowd forward into the space left vacant, and when the later teeth come they will be pushed out of their regular places, destroying the natural lines of the mouth. The first molars furnish the grinding surfaces necessary to proper chewing of the food. If they fall out too soon the child is hardly able to chew hard or tough food, and is likely to swallow such food in chunks.

The care of the child's first teeth is important because the health of the permanent set is largely dependent upon that of the first set. The second teeth are much larger than the first and consequently need more room in the gum. For necessary development the jaws must be given plenty of exercise. Consequently the child should have a mixed diet, including some hard food which he cannot swallow without chewing. Toast, crusts, hard crackers, certain fruits like apples, salad, vegetables, and meats should provide the

food elements needed for healthy teeth if the child is thriving.

### AS YOUR CHILD GROWS OLDER

**Age to  
Begin School**

Ordinarily your child should not enter school before the age of six years. A fusion of vision does not occur until the sixth year. For the same reason children should not before this age be allowed to spend too much time in studying pictures, blocks, etc., as they commonly hold these objects close to their eyes and in this way they become nearsighted.

**Know Your  
Child's  
Friends**

Take your child into your confidence, it is your duty, and you will be rewarded as the child grows older if you make their friends your friends and without snobbishness as to the social standing assist your boy and girl in selecting their most intimate playmates.

If they select friends that you know to be undesirable or apt to exert evil influences, you should invent other avenues of pleasure for them so interesting and attractive that the ones you wish them to avoid will be crowded aside.

**Moral  
Instructions**

You are the molder of your child's character. He is the raw material placed in your hands for final development. He does not know the difference between good and evil and if you do not take the time and have the patience to teach him he will mold his own character by wandering and stumbling in the dark as he gathers instruction with associates of his own selection.

When a child collides with the moral code he should be taught gently, wisely and firmly wherein he did wrong for he instinctively expects and has the inalienable right to receive his moral bearings from his parents.

**Faults**

Learn to discriminate between real and apparent faults. Remember that children delight in

noise while grownups prefer quiet. A child cannot understand why he should not scatter his belongings indiscriminately, why he should not play in puddles and soil his hands and clothing. For these natural tendencies the child should not be punished, instead, the child should be taught by example the necessary habits of tidiness and order. Children are natural imitators and will readily follow the examples set by the grown-ups of the household.

Remember that each child has his own individuality and will power. Do not try to change the individual but properly train it. To break a child's will power is a disaster as it cripples the child morally. The chief object of all training is to lead the child to love to do right and to see the ugliness and painfulness of wrong doing.

**Will Power**

The child should be taught to think out things for himself, to experiment and discover for himself why wrong ideas do not work to advantage. When a strong willed child insists on having his own way, even when he knows his way is wrong, you should allow him to do so at the same time exercising sufficient ingenuity to convince him that his way was not a pleasant way, that he suffered from it and that the results were disastrous. By this he learns a lesson from actual experience and he will then realize perfectly that the suffering has been the result of his own deed.

Quick temper, irritability and nervousness are often caused by bad digestion, lack of sleep or outdoor exercise. These conditions should be corrected. But in any event during undue outbursts of temper do not nag or employ harsh measures. Quiet, gentle persuasion or perhaps ignoring the child for a time will accomplish more than physical restraint or other forms of punishment.

**Temper**

Untruth-  
fulness

Untruthfulness is natural with the developing child and should be intelligently handled.

A child often resorts to three forms of untruthfulness, first, the imaginative lie, second, the evasive lie, and third, the polite lie.

The imaginative lie is the common expression of the imagination, like fairy tales, the stories of mythology, ordinary day dreams, etc., in other words, the creative instinct of the growing mind. Very young children often do not know the difference between what they imagine and what they actually see. This is not a fault and will disappear in time.

The evasive lie is the lie to avoid punishment and can be cured by removing the fear of physical punishment and substitute the mental punishment of having him confess his own fault.

A polite lie is the worst form and very unchildlike. This form of untruthfulness is usually employed to obtain something desired and the mother should guard against this form with all the force at her command. The child should know that its wishes, if legitimate, could be obtained by direct and truthful methods.

Impudence

Impudence is usually due to lack of perception and to bad example. The immature intellect does not perceive like the trained mind of the adult, as the child has not had the advantage of observing the undesirable impressions that an impudent individual leaves with his associates. Bad example is the most common cause and can be directly blamed to many parents.

Very few parents are as consistently courteous to their children as they are to their adult acquaintances. They too often address members of their own household with harsh tones and rough, abrupt forms of speech that would not be tolerated from

their business and social associates. Under these conditions the child instinctively rebels against this unjust discrimination and becomes impudent as a matter of self defense.

Corporal punishment is seldom necessary, never right and always harmful.

Corporal punishment teaches the child nothing of the reason why what he does is wrong. It is wrong because it impresses fear of pain as the motive for conduct instead of love of righteousness. It is wrong because it cultivates cowardice, deceitfulness and anger. Proper methods of discipline should tend to refine a child's sensibilities. Discipline should be educational, explanatory and with a view of interpreting to the youthful mind the full significance of righteousness.

**Corporal  
Punishment**

### DEVELOPMENT OF THE SPECIAL SENSES

The newly-born infant avoids the light. Its pupils contract in a light room, and if a bright light is brought before the eyes they close. During the first few weeks the infant indicates by every sign that excessive light is unpleasant. As early as the sixth day the eyes will sometimes follow a light in the room, and the child may even turn the head for this purpose. The muscles of the eyes of the newly-born infant act irregularly and not in harmony. Co-ordinate action for general purposes is not established until about the end of the third month. Even after this time inco-ordinate action is occasionally seen. The eyelids also move irregularly, and are often partly separated during sleep. The cornea is but slightly sensitive during the first weeks.

**Sight**

It is important that the room in which the newly born child is placed should be darkened, and that for the first few weeks the eyes should be protected against strong light.

### Hearing

For the first twenty-four hours after birth infants are deaf. This deafness sometimes persists for several days. It is believed to be due to absence of air from the middle ear and to swelling of the mucous membrane which lines the tympanum. With the movements of respiration, air gradually finds its way into the middle ear, and the swelling subsides during the first few days. After this the hearing gradually improves, and during the early months of life it is very acute. The child starts at the slamming of a door, and even moderately loud noises will waken it from sleep. By the end of the second month it will sometimes turn its head in the direction from which the sound comes, and by the end of the third month this will usually be done. Demme found, in observations upon one hundred and fifty infants, that the voices of parents were recognized on an average at three and a half months.

Not only are the ears unusually sensitive to sound in infancy, but the impression produced upon the brain is often marked—very loud sounds causing great fright, and sometimes even, it is reported, convulsions.

### Touch

Tactile sensibility is present at birth, but is not highly developed except in the lips, and tongue, where it is very acute for the obvious necessity of sucking. After the third month it is fairly acute over the surface of the body generally. Two especially sensitive areas, according to Preyer, are the forehead and external auditory meatus.

Sensibility to painful impressions is present in early infancy, but very dull as compared with later childhood.

Temperature is also distinguished. This recognition is especially acute in the tongue. A young infant is often seen to refuse to take the bot-

tle because the milk is only a few degrees too cold or too warm.

This is highly developed, even from birth. According to the experiments of Kussmaul, the ability to distinguish sweet, sour and bitter, exists in the newly-born child—sweet exciting sucking movements, and bitter, grimaces. A young infant detects with surprising accuracy the slightest variations in the taste of its food, and the smallest difference is often enough to cause it to refuse its bottle altogether. Sweet substances are always easily administered, and in combination with syrups even very bitter substances can be given; but to aromatic powders and elixirs it usually objects.

**Taste**

There is a very wide variation in children with reference to the time of development of the function of speech. Girls, as a rule, talk from two to four months earlier than boys. Toward the end of the first year the average child begins with the words "papa" and "mama." By the end of the second year it is able to put words together in short sentences of two or three words. Progress in speech from this time is very rapid, each month showing great improvement. Names of persons are commonly first acquired, then the names of objects. Next to this the verbs are learned, and then adverbs and adjectives. Conjunctions, prepositions, and articles follow in order, and last of all the personal pronouns.

**Speech**

If a child of two years makes no attempt to speak, some mental defect may usually be inferred.

**Dentition**

The deciduous or milk teeth are twenty in number. The time at which they appear is subject to considerable variations even under normal conditions. The following is the order and the average time of appearance of the different teeth:

**Eruption  
of the  
Permanent  
Teeth**

- (1) Two lower central incisors, 6 to 9 months
  - (2) Four upper incisors.....8 to 12 months
  - (3) Two lower lateral incisors and  
four anterior molars...12 to 15 months.
  - (4) Four canines .....18 to 24 months.
  - (5) Four posterior molars ..24 to 30 months.
- At 1 year a child should have.....6 teeth.  
 At 1 1-2 years a child should have 12 teeth  
 At 2 years a child should have.....16 teeth.  
 At 2 1-2 years a child should have....20 teeth

The first to appear are the first molars, which usually come in the sixth year, and hence the name six-year-old molars, which is applied to them. These appear posterior to second molars of the first set. The following table from Forchheimer gives the average time of the appearance of the second teeth:

First molars .....	6 years.
Incisors .....	7 to 8 "
Bicuspidis .....	9 to 10 "
Canines .....	12 to 14 "
Second molars .....	12 to 15 "
Third molars .....	17 to 25 "





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**TABLE SHOWING WEIGHT, HEIGHT, AND CIRCUMFERENCE OF THE HEAD AND CHEST FROM BIRTH TO THE SIXTEENTH YEAR**

Age	Sex	Weight	Height	Chest	Head
		Pounds	Inches	Inches	Inches
Birth .....	Boys	7.55	20.6	13.4	13.9
	Girls	7.16	20.5	13.0	13.5
6 months .....	Boys	16.0	25.4	16.5	17.0
	Girls	15.5	25.0	16.1	16.6
12 months .....	Boys	20.5	29.0	18.0	18.0
	Girls	19.8	28.7	17.4	17.6
18 months .....	Boys	22.8	30.0	18.5	18.5
	Girls	22.0	29.7	18.0	18.0
2 years .....	Boys	26.5	32.5	19.0	18.9
	Girls	25.5	32.5	18.5	18.6
3 years .....	Boys	31.2	35.0	20.1	19.3
	Girls	30.0	35.0	19.8	19.0
4 years .....	Boys	35.0	38.0	20.7	19.7
	Girls	34.0	38.0	20.5	19.5
5 years .....	Boys	41.2	41.7	21.5	20.5
	Girls	39.8	41.4	21.0	20.2
6 years .....	Boys	45.1	44.1	23.2	.....
	Girls	43.8	43.6	22.8	.....
7 years .....	Boys	49.5	46.2	23.7	.....
	Girls	48.0	45.9	23.3	.....
8 years .....	Boys	54.5	48.2	24.4	.....
	Girls	52.9	48.0	23.8	.....
9 years .....	Boys	60.0	50.1	25.1	.....
	Girls	57.5	49.6	24.5	.....
10 years .....	Boys	66.6	52.2	25.8	21.0
	Girls	64.1	51.8	24.7	20.7
11 years .....	Boys	72.4	54.0	26.4	.....
	Girls	70.3	53.8	25.8	.....
12 years .....	Boys	79.8	55.8	27.0	.....
	Girls	81.4	57.1	26.8	.....
13 years .....	Boys	88.3	58.2	27.7	.....
	Girls	91.2	58.7	28.0	.....
14 years .....	Boys	99.3	61.0	28.8	.....
	Girls	100.3	60.3	29.2	.....
15 years .....	Boys	110.8	63.0	30.0	21.8
	Girls	108.4	61.4	30.3	21.5
16 years .....	Boys	123.7	65.6	31.2	.....
	Girls	113.0	61.7	30.8	.....

A DIFFERENTIAL CHART OF ERUPTIVE CONTAGIOUS DISEASES

Disease.	Period of Incubation. Interval Between Exposure and First Signs of Disease.	Eruption Appears. Definite Illness.	Day of Eruption.	Location of Early Eruption.
Variola, Smallpox.	5th to 21st day, average, 12th day.	2nd or 3rd day.	Usually	Forehead, lips, and wrists.
Varicella, Chicken-pox Variola spuria, Water-pox.	7th to 19th day, average, 14th day.	1st to 4th day, continuing in successive crops to 6th or 10th day.		Trunk, back or chest.
Scarletina. Scarlet fever.	1st to 7th day. Average, the 3rd day.	1st to 7th day. Usually the 3rd. Frequently 1st.		Front of neck and chest.
Rubeola. Measles. Morbilli.	7th to 19th day. Average, the 14th day.	3rd to 4th day. Usually 4th day.		Cheeks and forehead.
Rubeola. Rotheln. Rubella. Epidemic roseola. German measles, French and False measles.	7th to 22nd day. Average, 10th to 15th day.	1st to 4th day. Usually the 2nd day.		Face.
Typhoid fever. Enteric fever.	1st to 28th day. Average 12th day.	5th to 8th day, continuing until decline of fever.		Abdomen.
Erysipelas, St. Anthony's fire. The Rose.	3rd to 7th day. Average 4th day.	1st to 24th hour.		Bridge of nose and cheeks; or contiguous to a round.

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Disease.	Character of Early Eruption	Adequate Period of Isolation After Exposure to Infection.	Duration of Infection and Adequate Period of Isolation After Suffering from Disease. Patient Still Unsafe Until Body, Clothes, etc., Thoroughly Disinfected
Variola, Smallpox.	Diffuse scarlatinatinal or maculat, measly rash with petechiae; coarse, bright-red papule.	21 days.	3 to 8 weeks, or until desquamation is complete. Special attention should be given to examination of soles, palms, finger- and toe-nails.
Varicella, Chicken-pox Variola spuria, Water-pox.	Bright-red points, soon becoming hemispherical vesicles.	19 days.	2 to 4 weeks, or until desquamation is complete.
Scarletina. Scarlet fever.	Very minute red points, coalescing and forming scarlet-red patches scattered on a deep subcuticular flush.	7 days.	3 to 6 weeks, or until desquamation is complete, and all catarrhal symptoms cease.
Rubeola. Measles. Morbilli.	Small, dark, red points, developing into livid, red semilunar macular patches.	14 days, if no fever, catarrh, cough, or cold.	2 to 4 weeks, or until desquamation is complete and all catarrhal symptoms cease.
Rubeola. Rotheln. Epidemic measles, French and False measles.	Raised, pinkish-red, macular spots of various sizes, discrete or confluent.	22 days.	2 to 3 weeks, or until all catarrhal symptoms cease.
Typhoid fever. Enteric fever.	Small, rose-colored points, isolated petechiae.	Indefinite. None.	Complete recovery 3 to 9 weeks.
Erysipelas, St. Anthony's fire. The Rose.	Tense, dark, shining, red, coalescing spots, with decided tendency to spread, and attended by local heat.	Indefinite. None.	Complete recovery, indefinite.





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